

Application No. 09/912,401

Docket No. CTX-171RCE

AMENDMENTS TO THE CLAIMS

Upon entry of this amendment, the following listing of claims will replace all prior versions and listings of claims in the pending application.

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IN THE CLAIMS

Please cancel claims 1-33, and add claims 34-63 as follows:

1-33 (Canceled).

34. (New) A method for maximizing throughput while avoiding overload of one or more servers, the method comprising the steps of:

transmitting, by an interface unit, client requests to a server to maintain performance of server throughput within a predetermined threshold range;

intercepting, by the interface unit, a request from a client to open a transport layer connection with the server;

determining, by the interface unit, from monitoring responses to client requests that the performance of the server throughput exceeds the predetermined threshold range;

buffering, by the interface unit in response to the determination, the intercepted request in a queue; and

transmitting, by the interface unit, the buffered request to the server upon the interface unit determining that the performance of server throughput is within the predetermined threshold range.

35. (New) The method of claim 34, wherein the predetermined threshold range comprises one of a maximum threshold range or an optimal threshold range for server throughput.

36. (New) The method of claim 35, wherein the predetermined threshold range comprises a first threshold at a lower point in the predetermined threshold range and a second threshold at a higher point in the predetermined threshold range, the first threshold represents one of a faster response time, a lesser number of users, or a greater number of connections than the second threshold.

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37. (New) The method of claim 36, comprising transmitting, by the interface unit, client requests to the server to maintain performance of server throughput one of at or near the first threshold.

38. (New) The method of claim 34, comprising determining, by the interface unit, the performance of the server throughput based on monitoring one or more of: the number of active connections opened to the server, the response time of the server, the rate at which the response time is changing, and the intercepted request.

39. (New) The method of claim 34, determining, by the interface unit, the performance of the server throughput based on a first portion of server resources available to service existing clients and a second portion of server resources available to accept new clients.

40. (New) The method of claim 34, comprising identifying a preferred client value for the request of the client, and determining the position of the client request in the queue based on the preferred client value.

41. (New) The method of claim 40, comprising determining, by the interface unit, the preferred client value from one or more of the internet address of the client request, the port number of the client request, by a header related to the client request, by previous requests from the client of the client request, and by a cookie related to the client request.

42. (New) The method of claim 34, comprising pooling, by the interface unit, a plurality of transport layer connections to the server.

43. (New) The method of claim 42, comprising multiplexing, by the interface unit, client requests via the pooled plurality of transport layer connections.

44. (New) The method of claim 34, comprising closing, by the interface unit, transport layer connections to the server to bring performance of server throughput within the predetermined threshold range.

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45. (New) The method of claim 34, comprising determining, by the interface unit, the performance of server throughput by one of a number of requests pending at the server or server error/overload messages from the server.

46. (New) The method of claim 34, comprising establishing, by the interface unit, the transport layer connection with the client in response to the request from the client.

47. (New) The method of claim 34, comprising opening, by the interface unit, a second transport layer connection to the server if there is not a free transport layer connection to the server.

48. (New) The method of claim 34, comprising opening, by the interface unit, a second transport layer connection to the server if the queue comprises one or more requests from a second client.

49. (New) A system for maximizing throughput while avoiding overload of one or more servers, the system comprising

an interface unit for transmitting client requests to a server to maintain performance of server throughput within a predetermined threshold range, and intercepting a request from a client to open a transport layer connection with the server; and

a queue for storing intercepted client requests;

wherein the interface unit determines from monitoring responses to client requests that the performance of the server throughput exceeds the predetermined threshold range, and buffers in the queue the intercepted request in response to the determination; and

wherein the interface unit transmits the buffered request upon determining that the performance of server throughput is within the predetermined threshold range.

50. (New) The system of claim 49, wherein the predetermined threshold range comprises one of a maximum threshold range or an optimal threshold range for server throughput.

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51. (New) The system of claim 50, wherein the predetermined threshold range comprises a first threshold at a lower point in the predetermined threshold range and a second threshold at a higher point in the predetermined threshold range, the first threshold represents one of a faster response time, a lesser number of users, or a greater number of connections than the second threshold.

52. (New) The system of claim 51, wherein the interface unit transmits client requests to the server to maintain performance of server throughput one of at or near the first threshold.

53. (New) The system of claim 49, wherein the interface unit determines the performance of the server throughput based on monitoring one or more of: the number of active connections opened to the server, the response time of the server, the rate at which the response time is changing, and the buffered request.

54. (New) The system of claim 49, wherein the interface unit determines the performance of the server throughput based on a first portion of server resources available to service existing clients and a second portion of server resources available to accept new clients.

55. (New) The system of claim 49, wherein the interface unit identifies a preferred client value for the request of the client, and determines the position of the client request in the queue based on the preferred client value.

56. (New) The system of claim 49, wherein the interface unit determines the preferred client value from one or more of the internet address of the client request, the port number of the client request, by a header related to the client request, by previous requests from the client of the client request, and by a cookie related to the client request.

57. (New) The system of claim 49, wherein the interface unit pools a plurality of transport layer connections to the server.

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58. (New) The system of claim 57, wherein the interface unit multiplexes client requests via the pooled plurality of transport layer connections.

59. (New) The system of claim 49, wherein the interface unit closes the transport layer connection to the server to bring performance of server throughput within the predetermined threshold range.

60. (New) The system of claim 49, wherein the interface unit determines the performance of server throughput by one of a number of requests pending at the server or server error/overload messages from the server.

61. (New) The system of claim 49, wherein the interface unit establishes the transport layer connection with the client in response to the request from the client.

62. (New) The system of claim 49, wherein the interface unit opens a second transport layer connection to the server if there is not a free transport layer connection to the server.

63. (New) The system of claim 49, wherein the interface unit opens a second transport layer connection to the server if the queue comprises one or more requests from a second client.